



017753-183.ST25

SEQUENCE LISTING

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HAEUW, Jean-François

<120> NOVEL ANTI-IGF-IR ANTIBODIES AND USES THEREOF

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<140> US 10/735,916

<141> 2003-12-16

<150> FR 03/08 538

<151> 2003-07-11

<150> PCT/FR 03/00 178

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 Ser Asp Val Leu Met Thr Gln Ile Pro Leu Ser Leu Pro Val Ser Leu
 10 15 20 25

gga gat caa gcc tcc atc tct tgc aga tct agt cag agc att gta cat 150
 Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His
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agt aat gga aac acc tat tta caa tgg tac ctg cag aaa cca ggt cag 198
 Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln
 45 50 55

tct cca aag ctc ctg atc tac aaa gtt tcc aac cga ctt tat ggg gtc 246
 Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val
 60 65 70

cca gac agg ttc agt ggc agt gga tca ggg aca gat ttc aca ctc aag 294
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys
 75 80 85

atc agc agc gtg gag gct gag gat ctg gga gtt tat tac tgc ttt caa 342
 Ile Ser Ser Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln
 90 95 100 105

ggt tca cat gtt ccg tgg acg ttc ggt gga ggc acc aag ctg gaa atc 390
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 35 40 45
 Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr
 50 55 60
 Lys Val Ser Asn Arg Leu Tyr Gly Val Pro Asp Arg Phe Ser Gly Ser
 65 70 75 80
 Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Ser Val Glu Ala Glu
 85 90 95
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 Trp Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser
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ctc aaa gat cga atc tcc atc act cgt gac aca tct aag aac cag ttt 291
 Leu Lys Asp Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe
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 50 55 60
 Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Ile Ser Ile
 65 70 75 80
 Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe Leu Lys Leu Asn Ser Val
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| 35 | 40 | 45 |
| Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro | | |
| 50 | 55 | 60 |
| Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile | | |
| 65 | 70 | 75 |
| Ser Ser Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly | | |
| 85 | 90 | 95 |
| Ser His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys | | |
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| Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser |
| 35 40 45 |
| Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro |
| 50 55 60 |
| Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile |
| 65 70 75 80 |
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| 100 105 110 |

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 35 40 45
 Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Ala Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
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 35 40 45
 Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro
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 Met Phe Trp Phe Pro Ala Ser Ser Ser Asp Val Val Met Thr Gln Ser 25
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Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
      35          40          45

Val His Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro
      50          55          60

Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr
  65          70          75          80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
      85          90          95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
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 Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly
 85 90 95
 Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 66
 <211> 433
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (22)..(414)

<400> 66
 gtcagaacgc gtgccgccac c atg aag ttg cct gtt agg ctg ttg gtg ctg 51
 Met Lys Leu Pro Val Arg Leu Leu Val Leu 10
 1 5
 atg ttc tgg ttt cct gct tcc agc agt gat att gtg atg act cag tct 99
 Met Phe Trp Phe Pro Ala Ser Ser Ser Asp Ile Val Met Thr Gln Ser 25
 15 20 25

cca ctc tcc ctg ccc gtc acc cct gga gag ccg gcc tcc atc tcc tgc 147
 Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys
 30 35 40

agg tct agt cag agc att gta cat agt aat gga aac acc tat ttg caa 195
 Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Gln
 45 50 55

tgg tac ctg cag aag cca ggg cag tct cca cag ctc ctg atc tat aaa 243
 Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys
 60 65 70

gtt tct aat cgg ctt tat ggg gtc cct gac agg ttc agt ggc agt gga 291
 Val Ser Asn Arg Leu Tyr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly
 75 80 85 90

tca ggc aca gat ttt aca ctg aaa atc agc aga gtg gag gct gag gat 339
 Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp
 95 100 105

gtt ggg gtt tat tac tgc ttt caa ggt tca cat gtt ccg tgg acg ttc 387
 Val Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Trp Thr Phe
 110 115 120

ggc caa ggg acc aag gtg gaa atc aaa cgt gagtggatcc tctgcg 433
 Gly Gln Gly Thr Lys Val Glu Ile Lys
 125 130

<210> 67
 <211> 131
 <212> PRT
 <213> Homo sapiens

<400> 67
 Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Phe Pro Ala
 1 5 10 15

Ser Ser Ser Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val
 20 25 30

Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
 35 40 45

Val His Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro
 50 55 60

Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr
 65 70 75 80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 100 105 110

Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val
 115 120 125

Glu Ile Lys
130

<210> 68
<211> 433
<212> DNA
<213> Homo sapiens

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aaaggacgaa ggtcgtcact acaacactac tgagtcagag gtgagaggga cgggcagtgg 120
ggacctctcg gccggaggta gaggacgtcc agatcagtct cgtaacatgt atcattacct 180
ttgtggataa acgttaccat ggacgtcttc ggtcccgta gaggtgtcga ggactagata 240
tttcaaagat tagccgaaat accccaggga ctgtccaagt caccgtcacc tagtcogtgt 300
ctaaaatgtg acttttagtc gtctcacctc cgactcctac aaccccaaat aatgacgaaa 360
gttccaagtg tacaaggcac ctgcaagccg gttccctggt tccaccttta gtttgcactc 420
acctaggaga cgc 433

<210> 69
<211> 117
<212> PRT
<213> Mus musculus

<400> 69
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15
Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr Gly Gly
20 25 30
Tyr Leu Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45
Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
50 55 60
Lys Asp Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80
Leu Lys Leu Asn Ser Val Thr Asn Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95
Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Leu Thr Val Ser Ser
115

<210> 70
<211> 118
<212> PRT
<213> Mus musculus

<400> 70
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln

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<210> 71
<211> 118
<212> PRT
<213> Mus musculus
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<400> 71
Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln
  1          5          10          15
Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr Ser Gly
      20          25          30
Tyr Trp Asn Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
      35          40          45
Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
      50          55          60
Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Tyr Phe
      65          70          75          80
Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
      85          90          95
Ala Arg Gly Gly Tyr Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
      100          105          110
Thr Val Thr Val Ser Ser
      115

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<220>

<221> VARIANT

<222> 59

<223> Xaa = Any Amino Acid

<400> 72

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Val Ser Ser Tyr
 20 25 30
 Trp Ser Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Arg Ile Tyr Tyr Ser Gly Ser Thr Xaa Tyr Asn Pro Ser Leu
 50 55 60
 Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Leu Pro Gly Gly Tyr Asp Val Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

<210> 73

<211> 123

<212> PRT

<213> Homo sapiens

<400> 73

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Ser Gly
 20 25 30
 Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Ser Met Phe His Ser Gly Ser Ser Tyr Tyr Asn Pro Ser Leu
 50 55 60
 Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Gln Leu Arg Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Gly Arg Tyr Cys Ser Ser Thr Ser Cys Asn Trp Phe Asp Pro
 100 105 110
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 74

<211> 98

<212> PRT

<213> Homo sapiens

<400> 74

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Ser Gly
 20 25 30

Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45

Ile Gly Ser Ile Tyr His Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
 50 55 60

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg

<210> 75

<211> 117

<212> PRT

<213> Homo sapiens

<400> 75

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Gly Gly
 20 25 30

Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45

Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60

Lys Asp Arg Ile Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
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<210> 76

<211> 445

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (22)...(426)

<400> 76

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                          1           5           10

aca gcc att cct ggt atc ctg tct cag gtg cag ctt cag gag tcg ggc 99
Thr Ala Ile Pro Gly Ile Leu Ser Gln Val Gln Leu Gln Glu Ser Gly
                        15           20           25

cca gga ctg gtg aag cct tcg gag acc ctg tcc ctc acc tgc act gtc 147
Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val
                        30           35           40

tct ggt tac tcc atc acc ggt ggt tat tta tgg aac tgg ata cgg cag 195
Ser Gly Tyr Ser Ile Thr Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln
                        45           50           55

ccc cca ggg aag gga ctg gag tgg atg ggg tat atc agc tac gac ggt 243
Pro Pro Gly Lys Gly Leu Glu Trp Met Gly Tyr Ile Ser Tyr Asp Gly
                        60           65           70

acc aat aac tac aaa ccc tcc ctc aag gat cga atc acc ata tca cgt 291
Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Ile Thr Ile Ser Arg
                        75           80           85

gac acg tcc aag aac cag ttc tcc ctg aag ctg agc tct gtg acc gct 339
Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala
                        95           100          105

gcg gac act gca gtg tat tac tgt gcg aga tac ggt agg gtc ttc ttt 387
Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe
                        110          115          120

gac tac tgg ggc cag gga acc ctg gtc acc gtc tcc tca ggtgagtgga 436
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
                        125          130          135

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<210> 77

<211> 135

<212> PRT

<213> Homo sapiens

<400> 77

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Met Lys Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Ile Pro Gly Ile
 1           5           10          15
Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
 20          25          30
Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr
 35          40          45
Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
 50          55          60
Glu Trp Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro
 65          70          75          80

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Ser Leu Lys Asp Arg Ile Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln
 85 90 95
 Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
 100 105 110
 Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser
 130 135

<210> 78
 <211> 445
 <212> DNA
 <213> Homo sapiens

<400> 78
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 ggaccatagg acagagtcca cgtcgaagtc ctcagcccgg gtcctgacca cttcggaagc 120
 ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtggccacc aataaatacc 180
 ttgacctatg ccgtcggggg tcccttcctt gacctcacct accccatata gtcgatgctg 240
 ccatggttat tgatgtttgg gagggagttc ctagcttagt ggtatagtgc actgtgcagg 300
 ttcttggtca agagggactt cgactcgaga cactggcgac gcctgtgacg tcacataatg 360
 acacgctcta tgccatccca gaagaaactg atgaccccgg tcccttgga ccagtggcag 420
 aggagtccac tcacctagga gacgc 445

<210> 79
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 79
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Gly Gly
 20 25 30
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60
 Lys Asp Arg Val Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

<210> 80

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<220>  
<221> CDS  
<222> (22) ... (426)
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<210> 81
<211> 135
<212> PRT
<213> Homo sapiens
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<400> 81
Met Lys Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Ile Pro Gly Ile
1 5 10 15
Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
20 25 30
Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr
35 40 45

Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro
 65 70 75 80
 Ser Leu Lys Asp Arg Val Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln
 85 90 95
 Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
 100 105 110
 Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser
 130 135

<210> 82
 <211> 445
 <212> DNA
 <213> Homo sapiens

<400> 82
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 ggaccatagg acagagtcca cgtcgaagtc ctacagcccg gtcctgacca cttcgggaagc 120
 ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtcgccacc aataaatacc 180
 ttgacctatg ccgtcggggg tcccttcctt gacctcacct agcccatata gtcgatgctg 240
 ccatggttat tgatgttttg gagggagttc ctagctcagt ggtatagtgc actgtgcagg 300
 ttcttgggtca agaggggactt cgactcgaga cactggcgac gcctgtgacg tcacataatg 360
 acacgctcta tgccatccca gaagaaactg atgaccccg tcccttggga ccagtggcag 420
 aggagtccac tcacctagga gacgc 445

<210> 83
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 83
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Gly Gly
 20 25 30
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60
 Lys Asp Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

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<220>
<221> CDS
<222> (22) ... (426)
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<210> 85
<211> 135
<212> PRT
<213> Homo sapiens
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<400> 85
Met Lys Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Ile Pro Gly Ile
1 5 10 15
Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
20 25 30

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Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser
      35              40              45
Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
      50              55              60
Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro
      65              70              75              80
Ser Leu Lys Asp Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln
      85              90              95
Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
      100             105             110
Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly
      115             120             125
Thr Leu Val Thr Val Ser Ser
      130             135

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<210> 86
 <211> 445
 <212> DNA
 <213> Homo sapiens

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<400> 86
cagtcttgcg cacggcggtg gtactttcac aactcagaca acatggagaa ctgtcggtaa 60
ggaccatagg acagagtcca cgtcgaagtc ctccgcccgg gtcctgacca ctccggaagc 120
ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtcgccacc aataaatacc 180
ttgacctatg ccgtcggggg tcccttccct gacctcacct agcccatata gtcgatgctg 240
ccatggttat tgatgtttgg gagggagttc ctagctcagt ggtatagtca cctgtgcagg 300
ttcttggtca agagggactt cgactcgaga cactggcgac gcctgtgacg tcacataatg 360
acacgtcta tgccatccca gaagaaactg atgaccccg tcccttggga ccagtggcag 420
aggagtccac tcacctagga gacgc
                                         445

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<210> 87
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description de la Artificial sequence:
 Oligonucleotide

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<400> 87
gtcagaacgc gtgccgcc
                                         18

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<210> 88
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

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<400> 88
accatgaagt tgcctgtag gctgttggtg ct
                                         32

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<210> 89
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 89
 gatgttctgg tttcctgctt ccagcagtga tg 32

 <210> 90
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 90
 ttgtgatgac tcagtctcca ctctccctgc cc 32

 <210> 91
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 91
 gtcacccctg gagagccggc ctccatctcc tg 32

 <210> 92
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 92
 caggtctagt cagaccatta tacatagtaa tg 32

 <210> 93
 <211> 30
 <212> DNA
 <213> Artificial sequence

 <220>

<223> Description of artificial sequence:
Oligonucleotide

<400> 93
gaaacaccta ttggaatgg tacctgcaga 30

<210> 94
<211> 32
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 94
ggcaacttca tggcggcgc acgcgttctg ac 32

<210> 95
<211> 32
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 95
gaaaccagaa catcagcacc aacagcctaa ca 32

<210> 96
<211> 32
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 96
ctgagtcac acaacatcac tgctggaagc ag 32

<210> 97
<211> 32
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 97
tctccagggg tgacgggcag ggagagtgga ga 32

<210> 98

<211> 32
 <212> DNA
 <213> Artificial sequence

<220>

<223> Description of artificial sequence:
 Oligonucleotide

<400> 98
 tctgactaga cctgcaggag atggaggccg gc 32

<210> 99
 <211> 31
 <212> DNA
 <213> Artificial sequence

<220>

<223> Description of artificial sequence:
 Oligonucleotide

<400> 99
 aaataggtgt ttccattact atgtacaatg c 31

<210> 100
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>

<223> Description of artificial sequence:
 Oligonucleotide

<400> 100
 cagggcagtc tccacagctc ctgatctata aa 32

<210> 101
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>

<223> Description of artificial sequence:
 Oligonucleotide

<400> 101
 gtttctaatac ggctttatgg ggtccctgac ag 32

<210> 102
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>

<223> Description of artificial sequence:
 Oligonucleotide

<400> 102
 gttcagtggc agtggatcag gcacagattt ta 32

<210> 103
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 103
 cactgaaaat cagcagagtg gaggctgagg at 32

<210> 104
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 104
 gttgggggttt attactgctt tcaaggttca ca 32

<210> 105
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 105
 tgttccgtgg acgttcggcc aagggaccaa gg 32

<210> 106
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 106
 tggaaatcaa acgtgagtgg atcctctgcg 30

<210> 107
 <211> 17

<212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 107
 tctgcaggta ccattgc 17

<210> 108
 <211> 21
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 108
 tgcaatggta cctgcagaag c 21

<210> 109
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 109
 agactgccct ggcttctgca ggtaccattg ca 32

<210> 110
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 110
 cgattagaaa ctttatagat caggagctgt gg 32

<210> 111
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 111

tgccactgaa cctgtcaggg accccataaa gc 32

<210> 112
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 112
 gattttcagt gtaaaatctg tgcctgatcc ac 32

<210> 113
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 113
 taaaccccaa catcctcagc ctccactctg ct 32

<210> 114
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 114
 tccacggaac atgtgaacct tgaaagcagt aa 32

<210> 115
 <211> 31
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 115
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<210> 116
 <211> 19
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 116
 cgcagaggat ccactcacg 19

<210> 117
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 117
 gtcagaacgc gtgccgcc 18

<210> 118
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 118
 accatgaaag tggtgagtct gttgtacctc ttga 34

<210> 119
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 119
 cagccattcc tggtatcctg tctcaggtgc agct 34

<210> 120
 <211> 34
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 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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 <400> 120
 tcaggagtgc ggcccaggac tggatgaagcc ttgc 34

<210> 121
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 121
 gagaccctgt ccctcacctg cactgtctct ggt 33

<210> 122
 <211> 33
 <212> DNA
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<220>
 <223> Description of artificial sequence:
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<400> 122
 tactccatca ccggtgggta tttatggaac tgg 33

<210> 123
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 123
 atacggcagc ccccagggaa gggactggag tgg 33

<210> 124
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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<400> 124
 atgggggtata tcagctacga cggtaccaat aac 33

<210> 125
 <211> 34
 <212> DNA
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<220>
 <223> Description of artificial sequence:
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<400> 125
 tcaacacttt catggtggcg gcacgcgttc tgac 34

<210> 126
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<220>
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 Oligonucleotide

<400> 126
 ataccaggaa tggctgtcaa gaggtacaac agac 34

<210> 127
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<220>
 <223> Description of artificial sequence:
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<400> 127
 tggggcccgac tcctgaagct gcacctgaga cagg 34

<210> 128
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 Oligonucleotide

<400> 128
 tgagggacag ggtctccgaa ggcttcacca gtcc 34

<210> 129
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 <213> Artificial sequence

<220>
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<400> 129
 ccaccggtga tggagtaacc agagacagtg cagg 34

<210> 130
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<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 130
 ccctgggggc tgccgtatcc agttccataa ataa 34

<210> 131
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<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 131
 tagctgatat accccatcca ctccagtcct tt 32

<210> 132
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 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 132
 gttattggta ccgtcg 16

<210> 133
 <211> 21
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 133
 tacgacggta ccaataacta c 21

<210> 134
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:

Oligonucleotide

<400> 134
 aaaccctccc tcaaggatcg aatcaccata tc 32

<210> 135
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 135
 acgtgacacg tccaagaacc agttctccct ga 32

<210> 136
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 136
 agctgagctc tgtgaccgct gcggacactg ca 32

<210> 137
 <211> 32
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 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 137
 gtgtattact gtgcgagata cggtagggtc tt 32

<210> 138
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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<400> 138
 ctttgactac tggggccagg gaaccctggt ca 32

<210> 139
 <211> 30

<212> DNA
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 <223> Description of artificial sequence:
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 <400> 139
 ccgtctcctc aggtgagtgg atcctctgcg 30

 <210> 140
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 <400> 140
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 <210> 141
 <211> 32
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 <220>
 <223> Description of artificial sequence:
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 <400> 141
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 <210> 142
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
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 <400> 142
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 <210> 143
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 <213> Artificial sequence

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<400> 143
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<210> 144
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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<400> 144
 agtagtcaaa gaagacccta ccgtatctcg ca 32

<210> 145
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 145
 ctgaggagac ggtgaccagg gttccctggc ccc 33

<210> 146
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<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 146
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<210> 147
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 147
 ctggttactc catcagcggg gggtatttat g 31

<210> 148
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 148
 cataaataac caccgctgat ggagtaacca g 31

<210> 149
 <211> 31
 <212> DNA
 <213> Homo sapiens

 <400> 149
 gggactggag tggatcgggt atatcagcta c 31

 <210> 150
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 <212> DNA
 <213> Homo sapiens

 <400> 150
 gtagctgata taccgatcc actccagtcc c 31

 <210> 151
 <211> 31
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 <213> Homo sapiens

 <400> 151
 tccctcaagg atcgagtcac catatcacgt. g 31

 <210> 152
 <211> 31
 <212> DNA
 <213> Homo sapiens

 <400> 152
 cacgtgatat ggtgactcga tccttgaggg a 31

 <210> 153
 <211> 39
 <212> DNA
 <213> Homo sapiens

 <400> 153
 gatcgagtca ccatatcagt ggacacgtcc aagaaccag 39

 <210> 154
 <211> 39
 <212> DNA
 <213> Homo sapiens

 <400> 154
 ctggttcttg gacgtgtcca ctgatatggt gactcgatc 39

 <210> 155
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 155
gcttccagca gtgatattgt gatgactcag t 31

<210> 156
<211> 31
<212> DNA
<213> Homo sapiens

<400> 156
actgagtcac cacaatatca ctgctggaag c 31